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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,300	03/19/2004	Michael Rosenstein	6296 C1/CPI/L/B/PJS	7840
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PATTERSON & SHERIDAN, LLP 3040 POST OAK BOULEVARD, SUITE 1500 HOUSTON, TX 77056			EXAMINER MOORE, KARLA A	
			ART UNIT 1763	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/804,300

Applicant(s)

ROSENSTEIN ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-13, 15-18 is/are rejected.
- 7) ☒ Claim(s) 4 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Both claims 1 and 2 recite "a shaft", based on Examiner's understanding of the invention it would seem that each of the claims is referring to the same shaft. However, based on the claim language, one would assume that they referring to two different structures. For purpose of examination, Examiner has assumed that each of the claims is referring to the same shaft. Clarification and/or correction is requested.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 5-6, 11 and 15-17 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,863,397 to Tu et al. in view of U.S. Patent No. 6,406,209 to Liu et al. and U.S. Patent No. 6,145,397 to Nzeadibe et al.

7. Tu et al. disclose a semiconductor processing chamber in Figures 1-3 substantially as claimed and comprising: a vacuum chamber body (22) having an open upper end; a hinge (50) coupled to the chamber body having a shaft (see Figure 2, not labeled) disposed in a fixed position relative to the chamber body; a lid assembly (21) coupled to the chamber body by the hinge (column 4, rows 31-34), the lid assembly rotatable about the shaft of the hinge between a first position sealing the upper end (closed) and a second position clear of the upper end (open), the lid assembly comprising a PVD target (Figure 1, 30 and/or column 4, rows 55-58).

8. However, Tu et al. fail to explicitly disclose a motor coupled to the hinge for moving the lid assembly between at least the first position and the second position.

9. Liu et al. teach using a motor (hydraulic cylinder, 31) for the purpose of moving a similar hinged lid assembly of a semiconductor processing chamber between at least a first position (closed) and a second position (open) (column 1, rows 10-38).

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10. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a motor in Tu et al. in order to move the lid assembly between at least a first position and a second position as taught by Liu et al.

11. With respect to claim 2, the hinge of Tu et al. further comprises: one or more mounting brackets (52) coupled to the shaft. The hinge of Liu et al. also comprises one or more mounting brackets (Figure 1, 35) and one or more bearing mounts (Figure 1, not numbered, semicircular part mounted using screws (39)).

12. With respect to claim 3, the motor is coupled to the shaft. See column 1, rows 21-32 of Liu et al.

13. With respect to claim 5, the bearing mounts are coupled to the chamber body (via the shaft), a frame circumscribing the chamber body or a processing platform having the chamber body coupled thereto.

14. With respect to claim 6, the apparatus of Tu et al. is a magnetron-type sputtering apparatus; therefore, it would possess a magnetron (column 4, rows 3-9).

15. The limitations of claims 11 and 16-17 are addressed above.

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16. With respect to claim 15, both of Tu et al. (Figure 2) and Liu et al. (Figure 1) comprise two mounting brackets and illustrate a brace coupled between the first and second mounting brackets, although it is not described in detail.

17. Claims 7-10 and 12, 13 and 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tu et al. and Liu et al. as applied to claims 1-3, 5-6, 11 and 16-17 above, and further in view of U.S. Patent No. 6,198,299 to Hollman and U.S. Patent No. 4,416,102 to Peters.

18. Tu et al. and Liu et al. disclose the invention substantially as claimed and as described above.

19. However, Tu et al. and Liu et al. fail to a first bushing having a c-shaped cross section disposed in the chamber body and a first pin disposed between the lid assembly and the chamber body (or coupled to the lid assembly) wherein a portion of the first pin mates in the first bushing. The first bushing and first pin comprising a first locating device.

20. Hollman teach the use of appropriately placed pins and bushings for the purpose of aligning a chamber with a cover (column 5, rows 9-14).

21. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided appropriately placed pins and bushings in Tu et al. and Liu et al. in order to properly align the chamber with the lid as taught by Hollman.

22. Tu et al., Liu et al. and Hollman disclose the invention substantially as claimed and as described above.

23. However, Tu et al., Liu et al. fail to teach the bushings as cylindrical or having a c-shaped cross section.

24. Peters teach the use of resilient traditionally shaped cylindrical bushings (Figure 9) and/or resilient bushings with a c-shaped cross section (Figure 12) for the purpose of allowing expansion of the bushing and subsequent locking of bushing in a proper placement (column 7, rows 13-20).

25. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a c-shaped bushing in Tu et al., Liu et al. in order to allow for expansion of the bushing and subsequent locking of the bushing as taught by Peters.

26. With respect to providing a plurality of first locating devices (pin and c-shaped bushings) and a plurality of second locating devices (pin and cylindrical bushings), while Holloman and Peters do fairly teach using a locating pin and a bushing for the purpose of proper alignment, a plurality of first locating devices and a plurality of second locating devices are not explicitly taught.

27. It would have been obvious to provide additional first locating devices and second locating devices in Tu et al. and Liu et al. as taught by Holloman and Peters for the same purpose. The courts have ruled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced. In re Harza,

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274 F.2d 669, 124 USPQ 378 (CCPA 1960). In the instant case, additional alignment devices as taught by Holloman and Peters would allow for more accurate alignment, which would be neither a new nor an unexpected result.

Allowable Subject Matter

28. Claims 4 and 14 is objected to as being dependent upon rejected base claim(s), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

29. The prior art of record fails to teach or fairly suggest: a shaft as recited in independent claims 1 and 11 further being coplanar with the upper surface of the main body. No other prior art was found that provided a valid motivation for incorporating this feature into the claimed invention.

Response to Arguments

30. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 2923430; 3973665; 5514259; 6145397; 6009667; 6035804; 6263542 and 6972071 disclose hinged processing chambers.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore
Primary Examiner
Art Unit 1763
14 May 2007